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ABSTRACT

This study was conducted to determine the level of satisfaction that high school seniors had with the competencies developed while enrolled in vocational agricultural programs in Florida. In addition, the study described selected demographic characteristics of senior vocational agricultural students and identified those demographic variables that were related to participant satisfaction. Data were gathered through telephone interviews with a random sample of 312 seniors in vocational agricultural programs in Florida high schools. Some of the findings were as follows: (1) females and racial minorities were seriously underrepresented among the students; (2) almost one-half of the seniors indicated that they planned to continue their education after graduation; (3) about 14 percent of the seniors were planning to enter farming or an agriculture-related occupation immediately after graduation; (4) although most of the seniors said they were from a rural background, two-thirds of the students lived on five acres or less; (5) although most students had been enrolled in vocational agriculture and had been involved in Future Farmers of America (FFA) for more than two years, less than half of the members had progressed through FFA degrees or had participated in an FFA contest in their senior year; and (6) teachers did not seem to be doing an adequate job of supervising work experience programs. The study also found that the seniors indicated a high degree of satisfaction with their programs, except for career guidance. Variables related to satisfaction were years of involvement in work experience and in FFA, perception of the adequacy of land laboratories, and teacher availability in the summer. (K

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Relationship of Vocational Agriculture Student Satisfaction to Selected Student, School, and Program Variables.

A Report of Research

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May, 1983

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INTRODUCTION

There has been a significant trend in recent years to reduce government spending in many areas. In this atmosphere of retrenchment, accountability has taken on new importance for vocational educators. With the increased emphasis on accountability, legislators, educators, and the general public are asking if expenditures for vocational education are producing desired results. Funding agencies are asking for evaluative information upon which to base policy decisions. Moreover, a review of the Vocational Education Amendments (1976) makes it clear that the authors of the legislation expect evaluation of vocational education programs to yield data useful in formulating on-going and future policy and program decisions. Valid and reliable data regarding the effectiveness of vocational agriculture/agribusiness programs in Florida are not available.

A generally accepted source of evaluative data for vocational education programs is the graduates of those programs. It is important to have an understanding of the level of satisfaction program participants have with the competencies developed while enrolled in vocational agriculture. This was the focus of the study.

Objectives

Specifically, the study was designed to:

1. Describe selected demographic characteristics of senior vocational agriculture students in Florida high schools.
2. Appraise participant satisfaction with the competencies developed as a result of participating in the vocational agriculture program.
3. Identify student, school, and program variables related to program participant satisfaction.

LITERATURE REVIEW

This review is to present an overview of the literature related to student follow-up in vocational education. The first section focuses on the importance of follow-up research in vocational education, including a review of the types of follow-up research that have been conducted. Section two summarizes the findings of recent follow-up studies concerning vocational education.

Importance of Follow-up Studies

Local, state, and federal governments have traditionally funded the vocational agriculture program in secondary schools. Federal funding for vocational agricultural education began with the Smith Hughes Act of 1917.

The importance of systematic evaluation of these programs increased as educators were held accountable for funding of ever more expensive instructional programs. The United States Congress recognized the importance of evaluating vocational education programs in the Education Amendments of Public Law 94-482 (U.S. Congress, 1976). Section 112(B) of the act stated:

> Each state shall evaluate by using data collected whenever possible, by statistically valid sampling techniques, each such program which purports to impart entry level skills according to the extent to which program completers or leavers: (1) find employment in occupations related to their training and, (2) are considered by their employers to be well trained and prepared for employment, except that in no case can pursuit of additional education or training by program completors or leavers be considered negative in these evaluations (p. 2187).

Evaluation of vocational education is usually based on job placement. The evaluation process, however, should consider other factors. Warmbrod (1970) wrote of a possible "practice-principle gap" in evaluation. Warmbrod stated:

> Follow-up studies concerned primarily with rates of employment de-emphasize other appropriate objectives of vocational education. The objectives to which we in agricultural education subscribe specifically mention occupational orientation and exploration, continuing education and the development of human relations and leadership abilities in addition to occupational placement and advancement. Data concerning all anticipated benefits of vocational education should result from follow-up studies. (p. 299)

Warmbrod continued that "the chief concern of education, including vocational education, is the nurture and development of individuals. Then the chief concern in evaluating the effectiveness of vocational education is an assessment of the development and change in behavior of individuals rather than measuring the monetary returns the investment yields." (p. 300)

Follow-up studies can provide information that can be used to improve classroom teaching methods. O'Reilly and Asche (1979) stated:

> Follow-up data may also give teachers important feedback on the quality of their teaching performance. Such information is useful for self-improvement and as a source of self-satisfaction. Data regarding teacher effectiveness may well become increasingly important in the future. (p. 3)

They continued that the "graduates and their employers are often the first to identify areas in which recent technological chance has created a need for program revision. Every vocational student has the right to up-to-date instruction that is compatible with the performance requirement of the job." (p. 3)

Wentling (1980), in Evaluating Occupational Education and Training Programs, listed a number of reasons for conducting a follow-up study. These reasons included determining: (1) the career patterns of former participants of various programs, (2) the immediate demand for positions within the community, (3) the mobility of program graduates, (4) the adequacy of the educational or training program in preparing individuals for job entry, (5) the adequacy of preparation for entry into advanced training and, (6) the adequacy of ancillary services such as guidance, counseling,and placement.

Borlich (1980) described a needs assessment model for conducting follow-up studies of teacher education and training. The model first defined a training need by identifying "what should be" and "what is" in the knowledge, performance and consequence (reaction to behavior) competencies of trainees. The distance between these two poles was an index of the programs effectiveness in teacher training. Borlich went on to say that the model can be adapted and extended to suit other institutions and purposes. (p. 1)

Harvey and Masemann (1975) described three research designs used in follow-up studies. The first was trend design in which similar populations were sampled at different points in time, i.e. graduates from a program in 1968 and 1970 followed up five years later in 1973 and 1975. The procedure could identify changes and suggest trends but provided no explanation of changes or trends.

The second, longitudinal design provided the most complete and accurate data set. In this design data were gathered on a selected population at points in time both before and after the specific experience under study (i.e. graduation from vocational program). The third, cross sectional design, surveyed at one time a population with similar experiences at different times, i.e. classes of 1968 and 1970 both surveyed in 1975. Descriptive information on differentiation of groups was provided.

Follow-Up Research in Vocational Education

Most of the follow-up studies reviewed were primarily concerned with job placement. Specific purposes of the studies and types of information gathered varied greatly. There were many factors other than employment that were valid measures in the evaluation of vocational education programs. Morgan, Drake, and Baker (1971) stated:

> ...many persons not familiar with vocational programs evaluation and evaluative criteria have the misconception that a program is a poor program if it does not place every student in a job directly related to his training. Individual differences, job opportunities, perceived job status, salary differentiation, resistance to job mobility, economic conditions, discrimination and many other factors account for persons not taking jobs related to their training. Teachers and administrators have no control over most of these factors and constraints, and this must be taken into consideration when appraising programs. (p. 1)

A number of follow-up studies have sought to gather data related to the effectiveness of a vocational program beyond job placement. Chern and Pettibone (1973) described a two year follow-up study of vocational school graduates in which respondents were asked to rate the importance of various factors related to their success on the job. These factors included communication skills, counseling, preparation for getting along with others, and adjustments to an eight hour workday.

Enoch (1977) described a follow-up study of former vocational students from the Roanoke, Virginia, Public Schools in 1975 and 1976. The study sought to identify the occupational status of students. In addition, former students were asked to rate the effectiveness of the instructional program in relation to twelve aspects of employment. These included such skills as knowing how to apply for a job, understanding what goes on in a particular job, being able to learn new things on the job, getting along with people, knowing how to ask questions which helped on the job knowing how to follow directions, and knowing about work safety.

Whether or not vocational education graduates find work in an occupation related to their field of study could be influenced by a number of factors in addition to the effectiveness of the vocational education program. McKinney (1982) identified many of these factors.

Data were collected through a review of literature, analysis of existing data, case studies, and a mail questionnaire. The data indicated higher job placement in schools where administrators, counselors, and teachers believed job placement was both a purpose of vocational education programs and was a prime responsibility; admission to vocational education programs was restricted to students with high interest and potential; there was a high demand for workers in the surrounding labor market area; manufacturing was a major community industry; the community had a mix of industry sizes; needs assessment surveys were frequently used to plan and evaluate vocational education programs; teachers had regular contact with employers regarding job placement; students participated in youth organizations and acquired job readiness training and basic education skills; and the vocational education curriculum was oriented to employer needs.

In the field of vocational agriculture, most of the studies reviewed were primarily concerned with the employment status of graduates. One major follow-up study of vocational agriculture graduates was the 1978 southern regional study (Iverson and Brown, 1978). The primary purpose of this project was to determine the role of vocational agriculture programs in the occupational success of program graduates from the southern region. Through the use of both mail and telephone questionnaires, large amounts of demographic data concerning the graduates' educational experience and employment status were collected. Respondents were also asked to rate statements about their experience in vocational agriculture/agribusiness and FFA, their teachers and the scope and function of the program. These ratings were recorded on a Likert 1 to 5 scale signifying opinions ranging from "strongly disagree" to "strongly agree".

Among the findings were that over half of the 1974 graduates entered the job market upon graduation from high school, less than one fourth took one or two years of college and only 13 percent completed a four year college program. Nearly one-half of the respondents were employed in non-agricultural occupations while 31.8 percent were in full or part-time farming or ranching and 34.7 percent were involved in other agricultural pursuits. Graduates demonstrated a high degree of support for their programs by indicating agreement with most of the positive statements designed to measure respondent attitudes towards the program.

Data from the southern regional study were further analyzed in a later study to determine if categories of responses could be identified and if a significant relationship existed between the categories and the demographic variables (Iverson, Jewell, Davis and Brown, 1982). The findings of this study led the researchers to conclude that variations among states affects respondents' evaluations more than any other variable. Race, educational level, years of vocational agriculture, participation in Future Farmers of America activities and supervised occupational experience program participation also strongly affected responses. Variables found to have little influence on responses included income, occupation, and sex.

In describing a statewide follow-up system for secondary agribusiness education terminees in Alabama, Drake (1977) stated:

> Vocational education terminee follow-up studies constitute one of the most valuable techniques for assessing the outcome of Agribusiness Education programs. Not only do follow-up studies offer an excellent approach for dealing with phases of accountability, they offer an excellent vehicle for program improvement. (p. 260)

The instrument used in the Alabama study focused on obtaining information concerning the following areas: (1) first-job employment, (2) present-job employment, (3) unemployment, (4) continuing education, (5) job placement, (6) quality and benefit of program (7) quality and benefit of instruction, (8) recruitment and orientation and (9) need for and quality of program resources. Among the findings were that approximately 29 percent of the terminees felt they did not have adequate job or occupational information and school experiences to make a realistic career choice. Of the respondents whose first job was directly related to their training, only 3.6

percent indicated that they were poorly prepared for the job as a result of their agribusiness program. Only 5.0 percent of the respondents indicated that they would not take a vocational program again.

Little (1970), in a review of state wide follow-up studies of former vocational agriculture students, reported a decreasing percentage of graduates who enter farming as an occupation, while the number of graduates entering non-farming agricultural occupations or non-agricultural occupations was increasing.

In summary, the follow-up study of program completers was seen as an important tool for evaluating vocational agricultural education programs. Most follow-up studies reviewed focused primarily on job placement or occupational status of graduates. Follow-up can also be used however, to measure other variables related to the objectives of vocational agriculture education.

RESEARCH PROCEDURE

Population Investigated

The population for this study consisted of all high school seniors enrolled in Florida Agribusiness and Natural Resources Programs during the 1982-83 school year. To obtain a list of all students in the population, a listing of all senior high school Agribusiness and Natural Resources teachers in Florida was obtained from the Agribusiness and Natural Resources Education Personnel Directory (1982). In November of 1982 each of the 333 teachers identified was asked to have each senior vocational agriculture student complete a brief questionnaire (Appendix A) that identified the student's name, address, phone number, and the number of years enrolled in vocational agriculture. Two follow-up contacts resulted in 310 (93%) of the 333 teachers responding. As a result, over 1800 senior vocational agriculture students were identified to form the accessible population.

To accomplish the objectives of the study, a random sample of 350 students was selected from the accessible population using a table of random numbers. The required sample size was determined to be 325 (95% confidence level) based on a recommended sample selection table (Yamane, 1967). It was believed that 325 completed questionnaires could be obtained from the sample of 350; later the sample had to be increased to 385 to obtain 312 completed questionnaire because of non-accessible students (e.g. "moved to another state", "phone disconnected", "joined military").

Ten randomly selected non-respondents were contacted and asked to respond to selected items on the questionnaire. An analysis of this information revealed no significant differences between respondents and non-respondents.

Instrumentation

In order to obtain requisite information, a telephone interview questionaire (Appendix B) was developed to obtain data from high school seniors. An instrument used in a southern region follow-up study (Iverson and Brown, 1979) assisted in forming a basis for many of the items included in the questionnaire.

The validity of the content of the instrument was established by a jury of selected staff members and graduate students in the Department of Agricultural and Extension Education in the College of Agriculture, the College of Education's Department of Administration and Supervision, and selected State Department of Education Personnel. The instrument was pilot tested on a group of twenty senior vocational agriculture students who were not included in the random sample. The information from the pilot test was used to check the clarity of instructions, appropriateness of questions, and other factors that might affect the response rate. Field testing yielded a reliability coefficient of .87 on the questionnaire.

Data Collection Procedures

Data for the study were collected between March 18, 1983 and March 23, 1983. Eight interviewers were trained to conduct the telephone surveys. All interviews were conducted from the offices of the Department of Agricultural and Extension Education, University of Florida. The researchers were present at all times during the interview process. Most contacts were made during the evening hours. A total of 312 (81.0 percent) questionaires were completed.

Data Analysis

Data were transferred from the completed questionnaires to IBM cards by the University of Florida's Data Processing Center. To analyze data pertaining to the first two objectives, mean scores were computed for each of the sixteen evaluation statements on the questionnaire. Descriptive statistics were also utilized to summarize each of the items related to school, program, and student variables.

To determine if there was a relationship between satisfaction and school, program, or student variables, each of the sixteen program evaluation statements was first examined by factor analysis. Three categories of evaluation statements were identified through factor analysis. A multiple regression analysis was utilized to examine the relationship between the categories of evaluation statements and the demographic variable.

PRESENTATION AND ANALYSIS OF DATA

This section is divided into three major parts, each of which addresses one of the three major objectives in the study. Part one presents demographic data that describe senior vocational agriculture students in Florida high schools and the programs in which they are enrolled. The second part summarizes student attitudes toward their experiences in vocational agriculture. The final part summarizes data that describe student, school, and program variables related to student satisfaction.

Objective One

Personal Characteristics

Objective one was designed to describe selected demographic characteristics of senior vocational agriculture students in Florida schools. Of the 312 respondents, 81.2 percent were male and 92.0 percent were white. Table 1 illustrates that 77 (24.7 percent) students had been enrolled in vocational agriculture for four years while 26 (8.3 percent) had been enrolled in vocational agriculture for only one year. There were 62 (19.9 percent) students who had taken five years of vocational agriculture. Only 7 (2.2 percent) students had been enrolled in vocational agriculture for more than five years.

The majority of the respondents (55.4 percent) were 17 years old. There were 118 (37.8 percent) students who were 18 years of age while 19 (6.0 percent) students were 19 years old. These data are presented in Table 2.

Table 1

NUMBER OF YEARS OF ENROLLMENT IN VO - AG
(N=312)

Years of Enrollment	Number	Percent	Cum.Percent
1	26	8.3	8.3
2	71	22.8	31.1
3	69	22.1	53.2
4	77	24.7	77.9
5	62	19.9	97.7
6	6	1.9	99.7
7	1	.3	100.0

Table 2

AGE OF RESPONDENTS
(N=312)

Age	Number	Percent	Cum.Percent
17	173	55.4	55.4
18	118	37.8	93.3
19	19	6.1	99.3
20	2	0.6	100.0

A small percentage (2.6 percent) of the students indicated that they planned to farm after graduation. Table 3 illustrates that 35 (11.3 percent) of the students indicated they plan to work in an agricultural occupation while 141 (45.4 percent) students indicated that they planned to continue their education after high school. Fifty-four (17.4 percent) students did not know what they were going to do after high school. There were 42 (13.5 percent) students who planned to enter the military.

The largest portion of the respondents lived on one acre or less. There were 121 (39.0 percent) students in this category. There were 87 (28.0 percent) students who lived on one to five acres while 70 (22.6 percent) lived on five to fifty acres. There were only 32 students who lived on more than fifty acres. These data are summarized in Table 4.

When asked if they were from an agricultural background, 71.1 percent responded "yes". However, Table 5 illustrates that only 50(16.1 percent) of the students indicated that their mother worked in an agricultural occupation and 91 (29.4 percent) indicated that their father worked in an agricultural occupation.

School Characteristics

Several questions related to characteristics of schools. The largest group of seniors who responded, 27.7 percent, were attending high schools with 201-400 seniors in their senior class. There were 42 (13.5 percent) students attending high schools with less than 50 students in the senior class while 60 (19.3 percent) students attended high schools with more than 401 students in the senior class. These data are summarized in Table 6.

Table 3

PLANS AFTER GRADUATION
(N = 310)

Plans After Graduation	Number	Percent	Cum.Percent
Farm	8	2.6	2.6
Agricultural Occupation	35	11.3	13.9
Non-Agricultural Occupation	30	9.7	23.5
Post-Secondary Vocational School	24	7.7	31.3
College	117	37.7	69.0
Military	42	13.5	82.6
Don't Know	54	17.5	100.0

Table 4

FAMILY RESIDENTIAL ACERAGE
(N = 310)

Acres	Number	Percent	Cum.Percent
1 acre or less	121	39.0	39.0
1+acre to 5 acres	87	28.2	67.1
5+acres to 50 acres	70	22.6	89.7
50+ acres	32	10.3	100.0

Table 5

OCCUPATIONAL STATUS OF PARENTS
(N= 310)

	Ag Occupation	Non-Ag Occupation
Mother	50 (16.1%)	260 (83.9%)
Father	91 (29.4%)	219 (70.6%)

Table 6

SIZE OF SENIOR CLASS
(N=310)

Size	Number	Percent	Cum.Percent
50	42	13.5	13.5
51-100	56	18.1	31.6
101-200	66	21.3	52.9
201-400	86	27.7	80.6
401 or more	60	19.4	100.0

The majority (65.9 percent) of students were in multiple teacher departments. The data in Table 7 reveal that over one-half of the students in multiple teacher departments were in a department that employed two teachers. Only 17 (5.5 percent) students were in a department with five or more teachers. Thirteen (4.2 percent) students were in four-teacher departments and 62 (19.9 percent) students were in three-teacher departments.

Each student was asked to rate the adequacy of the physical facilities for vocational agriculture in their school. The school facilities were divided into three areas including the classroom, shop, and land laboratory. For each of these areas, students were asked to indicate if that part of the facility was poor, fair, good, or excellent.

The data summarized in Table 8 illustrate that in each case the majority of students rated their vocational agriculture classroom, shop, and land laboratory as good. Only 2.2 percent of the students rated their classroom as poor, while slightly over 4 percent of the students rated their shop or land laboratory as poor. Over one-fifth (20.8 percent) of the students indicated that the land laboratory at their school was excellent.

Program Characteristics

The program area with the largest enrollment was production agriculture. Almost one-third (30.3 percent) of the students were enrolled in production agriculture. The second largest program area was ornamental horticulture with 27.7 percent of the total enrollment. The smallest program areas were agricultural supplies and agricultural processing. There were 53 (13.6 percent) students enrolled in an agricultural mechanics program and 30 (7.6 percent) students were in a forestry/natural resources program. Less than 10 percent of the students were enrolled in Fundamentals of Agricultural Occupations and

Table 7

NUMBER OF TEACHERS IN VO-AG DEPARTMENT
(N=311)

Teachers	Number	Percent	Cum.Percent
1	106	34.1	34.1
2	113	36.3	70.4
3	62	19.9	90.4
4	13	4.2	94.5
5 or more	17	5.5	100.0

Table 8

STUDENT ATTITUDES ABOUT THE ADEQUACY
OF THE VO-AG DEPARTMENT FACILITIES
(N=312)

	Classroom		Shop		Land Lab.	
Rating	Number	Percent	Number	Percent	Number	Percent
Excellent	64	20.5	89	28.8	65	20.8
Good	183	58.7	156	50.5	164	52.6
Fair	58	18.6	46	14.9	57	18.3
Poor	7	2.2	14	4.5	13	4.2
None	0	0.0	4	1.3	13	4.2

Applied Principles of Agricultural Occupations. Data on program area enrollment are presented in Table 9. It should be noted that of the 312 students included in the study, 78 were enrolled in more than one program area.

There were approximately the same number of students who were enrolled in one period (36.6 percent) as there were in two periods of vocational agriculture (36.9 percent). Fifty-three (17.5 percent)students were enrolled for three periods. There were six (2.0 percent) students who were enrolled for five periods. These data are presented in Table 10.

Approximately one-half of the students had been enrolled in a prevocational agriculture class. Table 11 illustrates that 147 (47.4 percent) had taken prevocational agriculture.

Program variables related to FFA. Over 85 percent of the students surveyed had been a member of the FFA at least one year. Of the 146 students who had been enrolled in vocational agriculture for four or more years, 134 (91.8 percent) had been a member of the FFA for four or more years. There were 28 (9.0 percent) students who had been a member of the FFA for only one year. Forty-six (14.8 percent) students had been a member of the FFA for two years while 57 (18.3 percent) had been a member for three years. Data summarizing FFA membership are presented in Table 12.

When asked about the highest FFA degree earned, 72 (27.1 percent) students said they had not earned at least a Greenhand Degree while they were a member of the FFA.. Table 13 illustrates that one-half of the students had reached the Chapter Farmer level while 61 (22.9 percent) had earned only a Greenhand Degree.

Table 9

SENIOR VO-AG PROGRAM ENROLLMENT
(N=390)

Program	Number	Percentage	Cum.Percentage
Ornamental Horticulture	108	27.7	27.7
Agriculture Production	118	30.3	58.0
Agriculture Mechanics	53	13.6	71.6
Forestry/Natural Resouces	30	7.7	79.3
Agriculture Cooperative	36	9.2	88.5
Agriculture Supplies and Services	4	1.0	89.5
Agriculture Products Processing	5	1.3	90.8
Fundamentals of Agricultural Occupations	26	6.6	97.4
Applied Principles of Agricultural Occupations	12	3.1	100.0

NOTE: Some interviewees listed enrollment in more than one program.

Table 10

NUMBER OF VO-AG CLASS PERIODS
(N=303)

Class Periods	Number	Percent	Cum.Percentage
1	111	36.6	36.6
2	112	37.0	73.6
3	53	17.5	91.1
4	21	6.9	98.0
5	6	2.0	100.0

Table 11

PRE-VOCATIONAL AGRICULTURAL CLASS
(N=310)

Yes	47.4%
No	52.6%

Table 12

YEARS OF MEMBERSHIP IN FFA
(N=311)

Year	Number	Percentage	Cum.Percentage
0	46	14.8	14.8
1	28	9.0	23.8
2	46	14.8	38.6
3	57	18.3	56.9
4	82	26.4	83.3
5	37	11.9	95.2
6	15	4.8	100.0

Table 13

HIGHEST FFA DEGREE
(N=266)

	Number	Percentage
No Degree	72	27.1
Greenhand	61	22.9
Chapter Farmer	133	50.0

Each senior was asked to indicate the number of FFA contest above the local level they had participated in during their senior year in high school. Of the 257 students who were currently members of the FFA, 148 (57.6 percent) had participated in at least one contest above the chapter level. The data in Table 14 illustrates that 76 (29.6 percent) students had participated in three or more contests during their senior year.

Program variables related to the supervised occupational experience program. There were 207 (67.9 percent) students who had been involved in a supervised occupational experience program (SOEP) for at least one year. Of the 146 students who had been enrolled in vocational agriculture for four or more years, 61 (41.8 percent) had been involved in an SOE program for four or more years. There were 40 (13.1 percent) students who had been involved in an SOEP for three years. Fifty-six (18.4 percent) students had been involved in an SOEP for two years while 50 (16.4 percent) had been involved for one year. Data summarizing SOEP participation are summarized in Table 15.

Each student who had been involved in an SOEP was asked to categorize the SOEP as either an ownership program, placement program, or directed laboratory experience program. There were 16 students who had projects that were in two different categories and three students indicated that they had all three types of projects. There were 119 (51.7 percent) students involved in an ownership experience program, and fifty-six (24.3 percent) students in a directed laboratory program (See Table 16). Almost two-thirds of the students indicated that the SOEP would lead to continued income after graduation.

Table 14

FFA CONTEST PARTICIPATION
(N=257)

Contests	Number	Percentage	Cum. Percentage
0	109	42.4	42.4
1	38	14.8	57.2
2	34	13.2	70.4
3	25	9.7	80.2
4	18	7.0	87.2
5	33	12.8	100.0

Table 15

YEARS OF PARTICIPATION IN THE
SUPERVISED OCCUPATIONAL EXPERIENCE PROGRAM
(N=305)

Years	Number	Percent	Cum.Percent
0	98	32.1	32.1
1	50	16.4	48.5
2	56	18.4	66.9
3	40	13.1	80.0
4	44	14.4	94.4
5	16	5.2	99.6
6	1	.4	100.0

Table 16

TYPES OF SUPERVISED OCCUPATIONAL EXPERIENCE PROGRAMS
(N=230)

Type	Number	Percentage	Cum. Percentage
Ownership	119	51.7	51.7
Placement	56	24.3	76.0
Directed Lab.	52	22.6	98.6
Other	3	1.3	100.0

Several questions were asked about the amount of supervision the students received with SOEPs. Almost one-third (30.3 percent) of the students involved in an SOEP indicated that their teacher did not visit their project during their senior year. Seventy-five (38.5 percent) students indicated that their teacher had visited their program one to three times during their senior year. Students were also asked how many times their teacher had telephoned them regarding their SOEP. Over one-half (59.0 percent) of the students had not been telephoned about their SOEP. Forty-nine students had been telephoned between one and three times. Data summarizing supervisory activity through visits and telephoning are summarized in Table 17.

Another form of project supervision is through record keeping. Over 80 percent of the students surveyed indicated that they maintained record books on their SOEP. Over 75 percent indicated that they had spent class time reviewing their record book (See Table 18).

The final question related to SOE was whether or not their vocational agriculture teacher was available to supervise their SOEP in the summer. Over two-thirds (87.7 percent) of the students indicated that their teacher was available to help in the summer.

Objective 2

The second objective sought to determine participant satisfaction with experiences received in vocational agriculture. Each student rated sixteen statements related to their vocational agriculture experiences. A modified four-point Likert scale was utilized to categorize responses. Students could strongly agree (coded 4), agree (coded 3), disagree (coded 2), or

Table 17

SOEP SUPERVISORY VISITS AND TELEPHONE CALLS

Number Of Contacts	Project Visits		Telephone Calls	
	No.	Percentage	No.	Percentage
None	59	30.2	121	59.0
1-3	75	38.4	49	23.9
4-6	34	17.4	22	10.7
7-9	7	3.6	2	1.0
10-12	7	3.6	4	1.9
13-15	1	0.5	0	0.0
16-18	0	0.0	0	0.0
19-21	1	0.5	1	0.5
22 or over	11	5.6	6	2.9
Total	(195)		(205)	

Table 18

MAINTENANCE OF RECORD BOOK ON PROJECT
(N=208)

	Number	Percentage	Cum.Percentage
YES	167	80.3	80.3
NO	41	19.7	100.0

strongly disagree (coded 1) with each of the items. Frequencies, percentages, and a mean response were computed for each statement.

In general, experiences received very high ratings from the seniors. For the statement, vocational agriculture taught me skills useful in production agriculture, 99 percent of the students either agreed or strongly agreed. When asked if they would enroll in vocational agriculture if they had it to do over, 96.8 percent of the students responded positively. The item with the least number of students responding positively (agree or strongly agree) was "vocational agriculture helped me choose an occupation". On this statement, 73.4 percent of the students either agreed or strongly agreed. These data may be reviewed in Table 19.

Students were in less agreement about teacher assistance received while in vocational agriculture. Responses to four items related to teacher assistance are summarized in Table 20. Approximately 96 percent of the students indicated that their teacher provided them with information on careers within agriculture. Over three-fourths of the students indicated their teacher encouraged them to attend college.

Objective 3

Objective 3 was designed to identify student, school, and program variables that are related to program participant satisfaction. To accomplish the objective, the 16 program evaluation statements were examined by factor analysis. Categories of evaluation statements (constructs) were identified through factor analysis, using the principal components method, and a varimax rotation. For this study, variables loading .60 or higher on a factor were considered in interpreting the meaning of that factor.

Table 19

RATINGS OF STATEMENTS ABOUT THE VOCATIONAL AGRICULTURE PROGRAM BY SENIOR VOCATIONAL AGRICULTURE STUDENTS
(N = 312)

Statements About Vocational Agriculture Experiences	Percentages of Responses				Mean Response*
	Strongly Agree	Agree	Disagree	Strongly Disagree	
Taught me skills useful in production agriculture	34.0	65.4	0.3	0.3	3.33
Taught me skills useful in agribusiness and natural resources	24.8	68.6	6.4	0.3	3.18
Helped me learn how to participate in meetings	38.5	54.8	5.8	1.0	3.30
Helped me choose an occupation	21.0	52.4	25.9	0.6	2.94
Helped me develop leadership skills	38.1	54.5	7.1	0.3	3.31
Helped me understand how to enter and advance in agricultural occupations	29.7	63.9	5.8	0.6	3.22
Helped me see the need to get along with others on the job	43.4	53.4	3.2	--	3.40
Helped me learn to work in production agriculture areas like farming, greenhouse plant production, or nursery operations	47.1	51.0	1.9	--	3.45
Helped me learn to work in agribusiness and natural resources areas like sales and services, forestry, or food processing	17.9	62.8	17.9	1.2	2.97
Helped me learn to get along with other people	36.3	61.1	2.3	0.3	3.34
Vocational agriculture classes were good for me	46.5	51.9	1.3	0.3	3.44
If I had it to do over I would re-enroll in vocational agriculture	53.5	43.3	2.9	0.3	3.5

*Coded as SA=4, A=3, D=2, and SD=1.

Table 20

RATINGS OF STATEMENTS ABOUT TEACHER ASSISTANCE IN VOCATIONAL AGRICULTURE BY SENIOR VOCATIONAL AGRICULTURE STUDENTS IN FLORIDA

Statements About Teacher Assistance	Percentages of Responses				Mean Response*
	Strongly Agree	Agree	Disagree	Strongly Disagree	
Encouraged me to enter an occupation in agriculture	28.8	59.6	10.6	1.0	3.16
Encouraged me to consider attending college	27.6	49.7	22.1	0.6	3.04
Provided me with information on careers outside of agriculture	15.7	58.0	25.6	0.6	2.88
Provided me with information on careers within agriculture	36.9	59.9	3.2	--	3.33

*Coded as SA=4, A=3, D=2, and SD=1.

Three satisfaction factors were identified and are summarized in Table 21. For each factor identified, the factor loading of each questionnaire item is indicated. The three categories of response statements were identified as (1) values of the program, (2) instructional program, and (3) career guidance.

To determine if any of the student, school, or program variables were related to the satisfaction factors, a step-wise multiple regression analysis was conducted. The student, school, and program variables were used as the independent variables and the three factors identified by factor analysis were used as dependent variables. A probablility level of .05 was used to determine if each independent variable was significantly explaining variance in each factor.

For the first factor, values of the program, there were three variables that were significantly explaining variance. Table 22 illustrates that years of participation in the supervised occupational experience program, adequacy of the land laboratory, and teacher availability in the summer were significantly explaining variance in the satisfaction factor labeled "value of the program". However, these three variables accounted for only 13.3 percent of the variance (R^2) in this factor.

The second factor identified through the factor analysis was the instructional program. Three variables were significantly explaining variance in factor 2 (see Table 23). These were teacher availability in the summer, years of participation in the supervised occupational experience program, and adequacy of the land laboratory. The R^2 value for these three variables was .11

For factor 3, career guidance, there were again 3 variables that were

Table 21

RESULTS OF FACTOR ANALYSIS OF THE EVAULATIVE RESPONSES

Item No.	Factor/Item Name	Factor Loading
	Factor 1: Values of the Program	
26	Vo-Ag helped me develop leadership skills	.67
31	Vo-Ag helps me learn to get along with other people	.66
32	Vo-Ag classes were good for me	.70
33	If I had it to do over again, I would enroll in Vo-Ag	.62
	Factor 2: Instructional Program	
23	Vo-Ag taught me skills useful in agribusiness and natural resources	.72
29	Vo-Ag helped me learn to work in production agriculture areas like farming, greenhouse production, or nursery operators	.60
30	Vo-Ag helped me learn to work in agribusiness and natural resource areas like sales and services, forestry, or food processing	.68
	Factor 3: Career Guidance	
34	My teacher encouraged me to enter an occupation in agriculture	.70
35	My teacher encouraged me to consider attending college	.76
37	My teacher provided me with information on careers within agriculture	.69

Table 22

REDUCED LINEAR MODEL FOR FACTOR 1

Source	DF	SS	F Value	Probability
Years SOEP	1	32.93	12.72	.0004
Adequacy of Land Laboratory	2	26.33	10.17	.0016
Teacher Available Summer	3	10.93	4.24	.0404

Overall F = 14.403; $P < .001$; R^2 = .13

Table 23

REDUCED LINEAR MODEL FOR FACTOR 2

Source	DF	SS	F Value	Probablility
Teacher Available Summer	1	9.48	6.06	.0144
Adequacy of Land Laboratory	2	13.49	8.63	.0036
Years SOEP	2	10.88	6.96	.0088

Overall F = 11.704; $P < .0001$; R^2 = .11

significantly explaining variance in the factor. These variables were years in FFA, adequacy of the land lab, and years of participation in the supervised occupational experience program (see Table 24). These three variables were explaining 17.9 percent of the variance (R^2) in factor 3.

Table 24

REDUCED LINEAR MODEL FOR FACTOR 3

Source	DF	SS	F Value	Probability
Years FFA	1	9.28	4.26	.0399
Adequacy of Land Laboratory	2	16.10	7.40	.0069
Years SOEP	2	10.97	5.04	.0256

Overall F = 15.84; $P < .0001$; R^2 = .18

CONCLUSIONS AND RECOMMENDATIONS

The central purpose of this study was to determine the level of satisfaction program participants have with the competencies developed while enrolled in vocational agriculture. In addition, this study was designed to describe selected demographic characteristics of senior vocational agriculture students and identify those demographic variables that are related to participant satisfaction. The data upon which the findings, conclusions, and recommendations were developed are based upon responses from 312 high school seniors in Florida.

Objective One

1. Females and racial miniorities were inadequately represented among seniors enrolled in vocational agriculture in Florida in 1983.

2. Almost one-half of the seniors indicated that they planned to continue their education after high school. Findings of the Iverson and Brown (1979) study indicated that only 11.7 percent of 1974 vocational agriculture graduates were actually attending college. Teachers and guidance personnel must recognize this gap and help students establish post high school plans.

3. A small portion (13.9 percent) of the seniors were planning to enter either farming or an agricultural/agribusiness occupation immediately upon graduation.

4. Despite the fact that most of the seniors indicated they were from an agricultural background, two-thirds of the students lived on five acres or less. Efforts should be made to provide programs that provide adequate experiences for students from urban as well as rural students.

5. Students generally have a positive attitude about the physical facilities for vocational agriculture at their school.

6. Most students had been enrolled in vocational agriculture and had been a member of the FFA for more than two years, yet only one-half of the students had progressed through the degree structure to the Chapter Farmer Degree. Instruction and leadership should be given to encourage progress through the degrees.

7. Of the seniors who were a member of the FFA, a large portion (42.4 percent) had not participated in an FFA contest during their senior year. Efforts should continue to develop a higher participation in these learning activities.

8. Approximately two-thirds of the seniors had been involved in a supervised occupational experience program while enrolled in vocational agriculture. However, of the students who had been enrolled in vocational agriculture for four or more years, only 41.8 percent had been involved in an SOEP for four or more years. Despite the positive note that two-thirds of the seniors had gained experience through an SOEP, efforts must continue to develop a stronger committment to this program.

9. The majority of the seniors with an SOEP indicated that their SOEP was an ownership program. Based upon the finding that most students are living on small acreages, there is a possible need to further develop the placement and directed laboratory components of SOE.

10. Teachers may be doing a less than adequate job of supervising experience program. Almost one-third of the seniors with an SOEP indicated that their teacher did not visit their project during their senior year. Efforts should focus on encouraging more active supervision on the part of teachers.

Objective Two

1. While seniors indicated a high degree of satisfaction with the experiences they received in vocational agriculture, guidance related items were the lowest rated areas. Teachers should continue to work for high quality instructional programs and give greater emphasis to career guidance.

Objective Three

1. Two variables were related to each of the three satisfaction factors that were identified. These variables were years of involvement in SOEP and student attitudes concerning the acequacy of the land lab. In addition teacher availability in the summer was related to factor 1 and factor 2. Years in the FFA was significantly related to factor 3, career guidance.

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APPENDIX A

SENIOR DATA FORM

APPENDIX A

SENIOR DATA FORM

Dear Vo-Ag Senior:

We need your help in obtaining an accurate list of our seniors in Vocational Agriculture throughout the state of Florida. Please provide the following information and return the form to your teacher.

Name _____ _____ ____ Telephone _____
Last First MI

Permanent Address _____

_____

How many years have you been enrolled in Vo-Ag including this year? 1 2 3 4 5
(Circle the correct one)

Thank you for your cooperation!

APPENDIX B

TELEPHONE SURVEY INSTRUMENT

COMPLETE AS MUCH AS POSSIBLE BEFORE START OF INTERVIEW.

Please be legible.

Interview #_____

Name:_____

Phone Number: ( )_____

Call Back: ( )_____

Interviewer:_____

Date:_____

Time:_____ AM PM

Length:_____ Min.

	1	2
Sex:	M	F

STUDENT SURVEY

Opening by Interviewer:

Hello. My name is _____. I am calling from the University of Florida's College of Agriculture. The college is conducting a follow-up study of Vo-Ag students and I wonder if I could have a few minutes of your time to ask some questions?

(Slight pause -- don't wait for approval, plunge right in!)

1. How many students are there in your high school senior class?
INTERVIEWER: Read choices.

_____Less than 50
_____51-100
_____101-200
_____201-400
_____401 or more.

2. How many teachers are there in your school's agriculture department?

_____1
_____2
_____3
_____4
_____5 or more.

3. How do you rate the adequacy of your ag. department's land lab facilities?
INTERVIEWER: Read choices.

_____Poor
_____Fair
_____Good
_____Excellent
_____School has no land lab.

4. How do you rate the adequacy of your Vo-Ag classrooms?
INTERVIEWER: Read choices.

_____Poor
_____Fair
_____Good
_____Excellent.

5. How do you rate the adequacy of your Vo-Ag shop?
INTERVIEWER: Read choices.

_____Poor
_____Fair
_____Good
_____Excellent.

6. In what agricultural program(s) are you enrolled as a senior?
INTERVIEWER: Do not read out list unless absolutely necessary.

_____Ornamental horticulture *(Nursery, landscaping, floriculture)*
_____Agricultural production *(Livestock, citrus, bees)*
_____Agricultural mechanics *(Ag. machine operation, ag. equipment technology)*
_____Forestry/Natural resources *(Timber harvesting, wildlife management)*
_____Ag. coop
_____Agricultural supplies and services *(Fertilizer, pesticides)*
_____Agricultural products processing *(Meat cutting, citrus processing)*
_____Fundamentals of agricultural occupations
_____Applied principles of agricultural occupations.

7. How many class periods of agriculture are you taking this year?

_____1
_____2
_____3
_____4
_____5.

8. How long were you in the FFA (Future Farmers of America)?

_____Never
_____One year
_____Two years
_____Three years
_____Four years
_____Five years
_____Six years or more.

IF 8 ANSWERED "NEVER," SKIP TO QUESTION 11.

9. In the FFA, have you a Greenhand or a Chapter Farmer degree?

_____Neither
_____Greenhand degree
_____Chapter Farmer degree.

10. About how many FFA contests have you participated in this year? (For example, livestock judging, parliamentary procedure, ornamental horticulture)

_____None
_____1
_____2
_____3
_____4
_____5 or more.

INTERVIEWER NOTE: "contests" above the local level.

11. How many years have you had a Supervised Occupation Experience Project (such as a job or raising plants or animals)?

_____Never
_____One year
_____Two years
_____Three years
_____Four years
_____Five years
_____Six years.

IF 11 ANSWERED "NEVER," SKIP TO QUESTION 18.

12. Which of the following best describes your project?

_____An ownership project *(cattle, crops, ornamental plants)*
_____Placement on a job or coop
_____A school land lab project
INTERVIEWER: Don't list "other." Fill in if volunteered.
_____Other. Interviewee's definition_____.

13. Will the project(s) you just described lead to continued income after graduation?

_____Yes
_____No.

14. How many times has an ag. teacher visited your job or project during your senior year? *INTERVIEWER: Try to force a definite answer, not a range.*

_____Times.

15. How many times did an ag. teacher telephone you about your job or project during your senior year? *INTERVIEWER: Try to force a definite answer, not a range.*

_____Times.

16. Did you maintain a Record Book on your project(s)?

_____Yes
_____No.

17. Do you remember any class discussions on Record Book keeping or on your projects?

_____Yes
_____No.

18. Is your ag. teacher available to help during the summer?

_____Yes
_____No
_____Don't know.

19. What do you plan to do after graduation from high school?

_____Farm or ranch
_____Work in an agricultural occupation
_____Work in some other occupation
_____Attend a voc/tech institution
_____Go to college (either community/junior or university)
_____Enter the military
_____Don't know.

20. During your junior high (or middle school) were you ever in an exploratory or pre-vocational agriculture class?

_____Yes
_____No.

21. *If "Yes" to above,* in which grades were you enrolled?

_____6th
_____7th
_____8th
_____9th.

In this section I will make statements about your Vo-Ag program. Please tell me whether you strongly agree, agree, disagree, or strongly disagree with the statements.

The first group is on <u>your</u> thoughts about your experiences.

	4 SA	3 A	2 D	1 SD
22. Vo-Ag taught me skills useful in production agriculture (1)	( )	( )	( )	( )

INTERVIEWER: After reading number 22, repeat again the definitions: strongly agree, agree, disagree, or strongly disagree.

23. Vo-Ag taught me skills useful in agribusiness and natural resources (2)	( )	( )	( )	( )
24. Vo-Ag helped me learn how to participate in meetings (6)	( )	( )	( )	( )
25. Vo-Ag helped me choose an occupation (3)	( )	( )	( )	( )
26. Vo-Ag helped me develop leadership skills (6)	( )	( )	( )	( )
27. Vo-Ag helped me understand how to enter and advance in agricultural occupations (3)	( )	( )	( )	( )
28. Vo-Ag helped me see the need to get along with others on the job (5)	( )	( )	( )	( )
29. Vo-Ag helped me learn to work in production agriculture areas like farming, greenhouse plant production, or nursery operations (1)	( )	( )	( )	( )
30. Vo-Ag helped me learn to work in agribusiness and natural resources areas like sales and services, forestry, or food processing (2)	( )	( )	( )	( )
31. Vo-Ag helped me learn how to get along with other people (5)	( )	( )	( )	( )
32. Vo-Ag classes were good for me	( )	( )	( )	( )
33. If I had it to do over, I would re-enroll in Vo-Ag	( )	( )	( )	( )
	4	3	2	1

The second group asks your opinions about your teacher(s) in Vo-Ag.

	4	3	2	1
34. They encouraged me to enter an occupation in agriculture--	( )	( )	( )	( )
35. They encouraged me to consider attending college----------	( )	( )	( )	( )
36. They provided me with information on careers outside of agriculture----------	( )	( )	( )	( )
37. They provided me with information on careers within agriculture----------	( )	( )	( )	( )
	4	3	2	1

Finally I would like to ask a few questions about you and your family. Remember, this information will be held in confidence.

38. On how many acres does your family live?

_____1 acre or less
_____1+ acre to 5 acres
_____5+ acres to 50 acres
_____50+ acres.

39. Do you consider yourself from an agricultural or non-agricultural background?

_____Agricultural
_____Non-Agricultural.

40. Do either of your parents work in an agricultural or agribusiness job?

Mother	Father
_____Yes	_____Yes
_____No	_____No.

41. What is your age?

_____.

42. What is your race?

_____White
_____Black
_____Hispanic
_____Amer.Indian
_____Asian
_____Other.

Thank you for your time and interest.

*INTERVIEWER's COMMENTS:*_____.